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**STRATEGIES FOR RECRUITING ADDITIONAL AFRICAN AMERICANS
INTO THE NASA JSC SUMMER FACULTY FELLOWS PROGRAM**

**Final Report
NASA/ASEE Summer Faculty Fellows Program--1993
Johnson Space Center**

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ABSTRACT

African Americans have participated sporadically in the NASA JSC Summer Faculty Fellows Program--none in 1992 and four in 1993. There is a pool of African Americans who are both qualified to provide services and willing to participate in initiatives which support technologies required for future JSC programs. They can provide human support and handle mission operations, spacecraft systems, planet surface systems, and management tools. Most of these faculty teach at historically black colleges and universities (HBCUs). This researcher will document the current recruitment system, critique it, and develop a strategy which will facilitate the diversification of the NASA JSC Summer Faculty Fellows Program. While NASA currently mails notices to HBCUs, such notices have generated few applications from, and fewer selections of, targeted faculty.

To increase the participation of African Americans in the NASA JSC Summer Faculty Fellows Program, this participant will prepare a strategy which includes a document which identifies HBCU-targeted faculty and enumerates more formally extensive and intensive communication procedures. In addition, an article will be submitted for publication in **BLACK ISSUES IN HIGHER EDUCATION**. A fifteen-minute panel discussion, which will include a video, will be delivered during the annual meeting of the American Society for Engineering Education (ASEE) to be held in Edmonton, Alberta, Canada June 26-29, 1994. An announcement letter will be mailed to targeted faculty; follow-up telephone calls and personal visits will be made and a checklist flowchart will be completed by key NASA personnel or designee. Although initially limited to NASA JSC's recruitment of African Americans, this strategy may be broadened to include other NASA sites and other targeted minority groups.

INTRODUCTION

The NASA/ASEE Summer Faculty Fellows Program is described in a 1989 NASA report as a cooperative program designed to give

. . . faculty fellows in various academic disciplines the opportunity to use NASA field centers to perform research.

The program is open to U.S. citizens with teaching or research appointments in universities or colleges; priority is given to applicants with two years of experience.

ASEE sends application packages to more than 50,000 science and engineering faculty members each year. Announcements also appear in *ASEE Journal* and other specialized publications. Field center personnel screen the applications, selecting candidates on the basis of academic record, qualifications, and research interests. Approved applications are then made available to NASA researchers at field centers for final selections.

To date, more than 5,000 faculty members from more than 300 institutions and 35 teaching disciplines have taken part in the program; almost three-fourths of those accepted in the past taught engineering, physics, mathematics/statistics, or chemistry.¹

Therein lies the core of NASA's recruitment criteria for the Summer Faculty Fellows Program.

The purpose of this research project is to assess recruitment performance and to identify opportunities for improvement. Its objective is to determine if existing application and selection procedures are appropriate in light of the past participation of African American faculty in the JSC Summer Faculty Fellows Program.

¹United States. NASA. Educational Affairs Division Program and Services. Washington: NASA Headquarters, June 1989, pp. 18--19.

SCOPE AND PROCEDURES

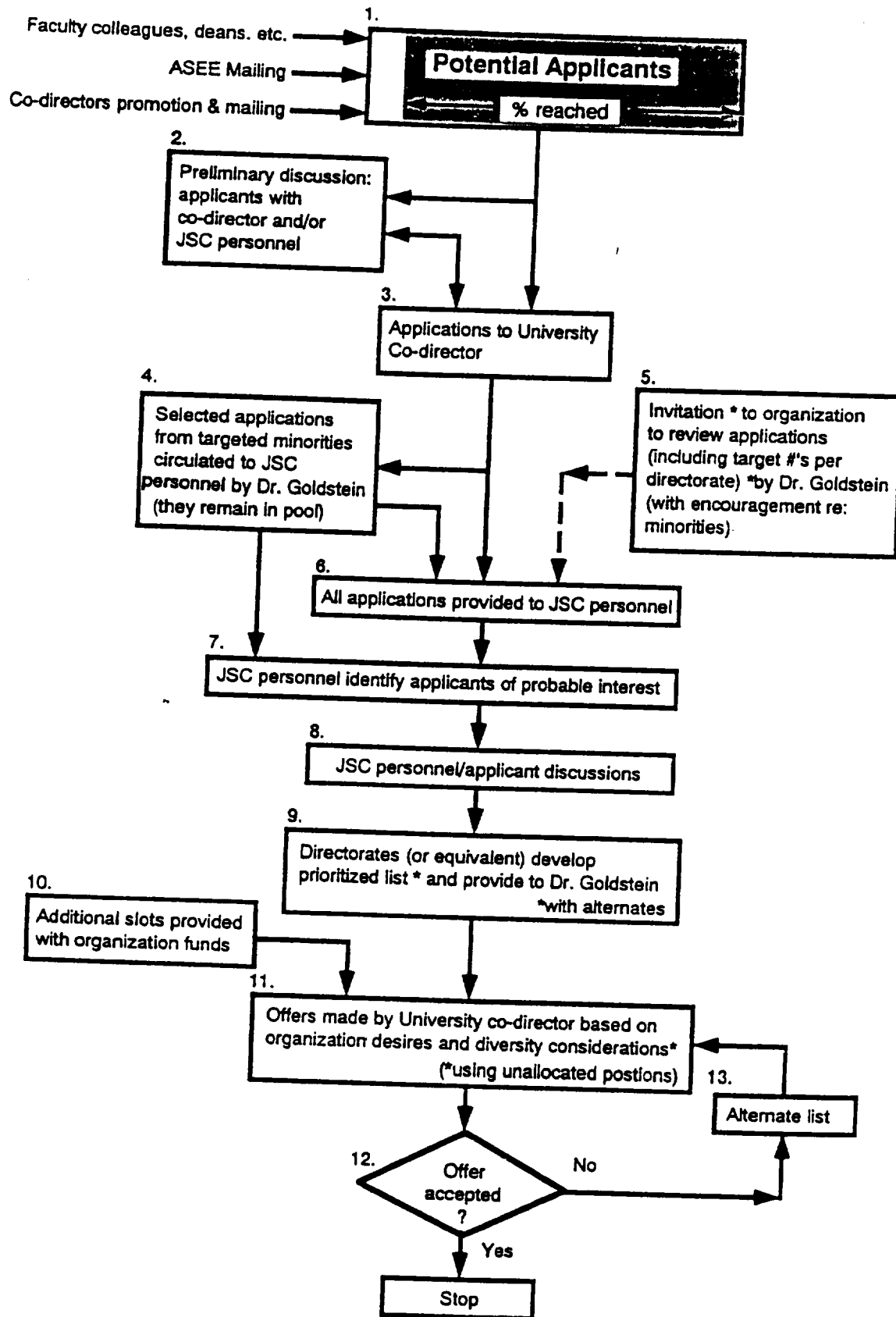
This researcher conducted a review which consists of a sampling of JSC's recruitment procedures and of the procedures of two other field centers of the NASA Summer Faculty Fellows Program. This researcher reviewed management-selected files and discussed ASEE application and NASA JSC selection practices with NASA personnel, with faculty at investigator-selected universities, and with the three other African American NASA JSC Summer faculty fellows. This researcher also interviewed co-directors of two other NASA Summer Faculty Fellows Programs who described their recruitment activities.

DISCUSSION

Currently, NASA headquarters allocates to JSC twenty-six American Society for Engineering Education summer faculty fellows positions. The nine NASA field centers may gain additional positions through local funding. In the Summer of 1993, JSC had thirty-five faculty fellows. Although the formal application process began in December 1992, the informal, strong pre-selection networking began earlier when candidates spoke informally with key NASA personnel to find a common ground. Some early would-be-fellows do call the university program administrator who in turn can refer them to key NASA personnel.

Each year Dr. Stanley Goldstein, the JSC Director of University Programs, mails to managers within JSC a letter announcing Open House for viewing applications. The letter usually includes a statement about the desirability of selecting minorities and women. The Director reserves a few positions in case minorities are not included by the initial selection process. Subsequently the Director offers these withheld positions to managers within JSC provided they agree to select excluded minorities. However, the Director did not follow this later procedure in 1992 for no African American was selected to participate that year. Figure 1: NASA/ASEE JSC Recruitment Process, (page 5), documents the JSC selection process. In 1993, as applications were received, both the program administrator and the JSC University Director sought to establish an early collegial linkage.

FIGURE 1: NASA/JSC RECRUITMENT PROCESS



Step 2 is crucial in this process but many African American applicants to date seem to be unaware of its decisive role. A remedy is to stress to applicants the necessity of completing this step as indicated. The PI will assume this role and will also follow the steps in Figure 2: Initial and Follow-up Calls and Visits, (page 7). Monitoring the application process in this manner will enhance the quality and fit of the responses to the application line item labeled *Anticipated Research Interests*.

Model

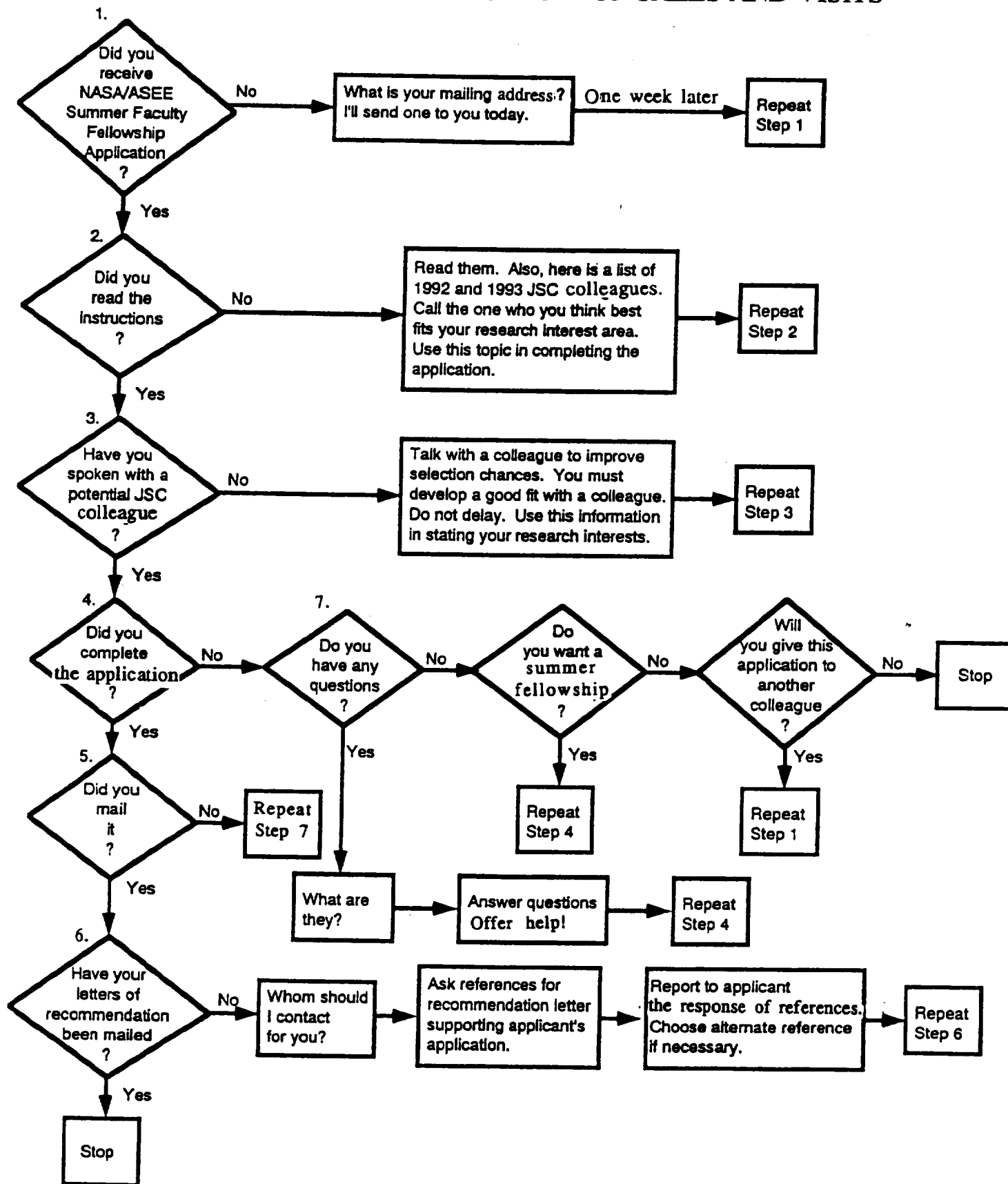
This model requires two activities: identification of targeted faculty and monitoring of the application processes. Each year, the model requires the identification of targeted faculty from the universities listed in Table 1 (page 9). The list is supplemented by names received from others, such as alumni of the 1993 JSC Summer Faculty Fellows program. The activities stated in Table 2 (page 12) are to be performed by the dates indicated. Specifically, said person(s) will fax short documents (or mail longer ones) and will phone and/or visit applicants to provide appropriate follow-up activities. Completion of these activities will insure a steady stream of applicants.

In addition to the above activities, the model incorporates (1) the submission for publication of a NASA/ASEE awareness and recruitment article in the Fall 1993 issue of **BLACK ISSUES IN HIGHER EDUCATION** (Exhibit A) and to other journals in subsequent years and (2) participation in the June 1994 ASEE annual meeting (See Exhibit A and its related video tape) and at other meetings in subsequent years.

Measurement Criteria

A comparison of the selection activities performed by NASA JSC with those performed by Langley Research Center and with John C. Stennis Space Center revealed no significant differences except for the practice--as opposed to the stated policy--of early collegial bonding prior to the submission of the written application. The rationale is that because JSC is an operational center, rather than a research center, fellows' selections are colleague driven.

FIGURE 2: INITIAL AND FOLLOW-UP CALLS AND VISITS



CONCLUSIONS AND RECOMMENDATIONS

The NASA/ASEE Program should consider broadening its scope to reflect recruitment from fields other than science and engineering, as appropriate. The application pool will be considerably greater when other fields are included because there are more African Americans in other fields than in science and engineering. Educators have helped, and can continue to help, complete projects not in science and engineering.

The directors of university programs and co-directors of the JSC Summer Faculty Fellows Program should tell African American applicants that although the formal application process begins in December, the informal, strong preselection networking begins earlier. Applicants speak informally with key NASA personnel (JSC colleagues-to-be) and find common ground prior to submission of the written application. (This researcher asked seven first time participants "What steps did you follow in applying for this fellowship?" All had spoken with their JSC colleague-to-be before completing the application.)

The co-directors should inform the summer faculty fellows that they are deemed to be independent contractors. Thus, their \$10,000 stipend is both their gross and their net pay. Fringe benefits are excluded.

QUESTIONS FOR FURTHER STUDY

Between 1988 and 1993, the number of African Americans selected at JSC was usually less than half the number of applicants. Specifically, for 1988, 1/7; 1989, 1/unavailable; 1990, 1/5; 1991, 1/2; 1992, 0/4; and 1993, 4/8. (The NASA-wide Center rate is less than 1/3 ²) Are these low participation ratios a result of articulation deficiencies?

If the applicant receives input from the JSC colleague-to-be before completing the written application, will a greater number of the applicants be selected? Performance of this task and subsequent evaluation will determine if this is an effective model for motivating

²Ibid., p. 19.

African Americans to consider initiating and completing NASA-type research projects.

Given co-directors' tendency to "look in their own backyards for African Americans," can an African American do a consistently better job of qualifying African Americans for summer faculty fellows selection? To achieve more minority involvement at JSC two choices emerge: create a three-university split in the directorship by including Texas Southern University, or Give one person six of the total JSC slots and have him/her fill them.

The application form should specify where applicants are likely to find placement. Are biologists more likely to be placed at JSC than at any of the remaining centers?

To what extent have JSC alumni continued their NASA-type research activities? For the period, 1985-1993, what is the data on minority participation? What are the numbers of HBCUs and faculty participating?

Are there other appropriate universities and other entry points than those listed in Table 1? How complete and how comprehensive is this listing?

TABLE 1
HBCU DIRECTORY FOR NASA/ASEE PROJECTS

Mr. Burt Allen
Chief Flight Instructor
Alabama Aviation and Mechanical University
Huntsville, Alabama 35672
(205) 774-5113 (X248)

Dr. Linda Chamberlin, Director
Space Life Sciences Training Program
College of Pharmacy
Florida A. and M. University
Tallahassee, Florida 32307
(904) 599-3636

Dr. Clarence Coleman, Chair
Chemistry, Physics, and Engineering Department
Norfolk State University
Norfolk, Virginia 23504
(804) 683-8909

Dr. Joseph Colen, Chair
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Jackson State University
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(601) 968-2161

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Natural Sciences, Mathematics, and Computer Science Department
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Dr. Eddie Hildreth, Chair
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Baton Rouge, Louisiana 70126
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Dr. Arthur Jones, Chair
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Dr. Steve Lai, Director
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Hampton, Virginia 23668
(804) 727-5440

Dr. James Turner, Director (513) 376-6392
Dr. John Hurley, Associate Director (513) 376-6456
Center of Excellence in Applied Mathematics
139-A Jenkins Hall
Central State University
Wilberforce, Ohio 45384

These Table 1 addressees will be monitored in compliance with the Figure 2 dialogue according to the Table 2 timetable.

TABLE 2
ACTIONS AND STRATEGIES

<u>DATE</u>	<u>ACTIVITY</u>
8/15/93-9/15/93	1. Send letters to targeted HBCUs announcing the NASA/ASEE forthcoming applications. Purpose : To establish contact and to motivate participation in NASA-type research projects. Deliverables: a form letter and a copy of the 1993 application form. Submit article to BLACK ISSUES IN HIGHER EDUCATION for publication. Contact NAFEO again and arrange to be placed on the March 1994 program.
9/16/93-10/15/93	2. Talk with a contact person (who may or may not be the addressee in "1"). Purpose: To locate the names of specific faculty who will apply and to motivate participation in NASA-type research projects. Deliverables: a copy of the 1993 application form and a list of 1992 and 1993 JSC Colleagues. 3. Monitor faculty identified in "2" to ascertain their continuing interest in participating and their progress in speaking with a past JSC Colleague.

Purpose: To encourage applicants-to-be to obtain input for purposes of completing the written application and to motivate participation in NASA-type research projects.

12/1/93-1/15/94

4. Monitor the application completion process detailed in *Figure 2*, page 7.

3/23-27/94

5. Register for, attend, and participate in the NAFEO Annual Meeting.

EXHIBIT A

Article for Submission to BLACK ISSUES IN HIGHER EDUCATION for publication.

FOR THE 15-MINUTE PANEL DISCUSSION, IN ADDITION TO PRESENTING THE ARTICLE DATA, ALSO SHOW VIDEO, ANSWER QUESTIONS, INVITE ADDITIONS TO THE CURRENT MAILING LIST, AND DISTRIBUTE COPIES OF THE 1994 APPLICATIONS AS A GUIDE FOR 1995 APPLICATIONS.

EXHIBIT B

FORM LETTER

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